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Restraint Systems For Your Automobile

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Why are child restraints

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Why are child restraints needed?

What kind of restraint systems are available?

How do I select the best restraint for my child?

What is the proper way to use child restraints?

Where can they be purchased?

This booklet answers these questions. The rest is up to parents—to select and obtain the proper restraint, and then to USE IT PROPERLY according to directions.

Why Child Restraints Are Needed

After the critical early weeks of life for the newborn baby, automobile crashes are the leading cause of death for American children. In 1978 alone, 669 children under the age of 5 were killed while riding in cars. Tens of thousands more were seriously injured. The tragedy is that most of those deaths and injuries could have been avoided if parents had taken the time to buckle their children into a proper child restraint system.

To understand why restraints are so important, one must first understand what happens in a crash, or in a sudden panic stop. When a car hits another object and stops suddenly, or when a sudden hard braking action brings it to a fast stop, all occupants in the car continue to move forward at the same speed the car was travelling, until something stops them. Too frequently, that "something" is the steering column, the dash board, the windshield, or some other part of the interior of the car. It is this second collision that causes injuries and death.

In the case of small children, if they are not restrained they literally become flying missiles. It happens so fast, and with such force—even in low speed crashes—that neither the parent nor the child can prevent the child from a violent impact with other

passengers or with some hard surface within the car.

The solution to the problem of the second collision is a restraint system. For adults, that means a safety belt, which holds you safely in your seat, away from the car interior. The belt's webbing and the sturdy adult pelvis and rib cage absorb the forces of the collision. But for young children under 5, child restraints are the best solution.

Children need to have the crash forces spread more evenly over their fragile bodies, and that's what child restraints do. They are fastened to the car by the safety belt already in your car, and in a crash they protect children from colliding with the car's interior.

Of course, if no child restraint is available, it is much better to buckle children into regular safety belts than to let them ride free, loose, and unprotected.

Some parents think they can protect infants and young children from being injured by holding them in their laps. They cannot. In a 30 mph crash, for example, a child may be thrown forward with a force equal to 30 times its own weight. If you are wearing a safety belt, the child can be torn from your arms and hurled into the dash or the windshield. If you're not wearing a safety belt, both you and your child will fly forward, with the probability that your child may be crushed between you and the dash. **HOLDING YOUR CHILD IN YOUR LAP IS NOT SAFE.**

Unfortunately, our studies show that most parents do not provide their children with the protection restraints can offer. A recent survey found that only 5 percent of young children were using child restraints.

Whether adults do or do not use safety belts available in cars is a conscious choice. Small children cannot decide for themselves to buckle up. They depend on their parents to protect them from harm, and make that decision for them.

Fortunately, effective child restraint systems that have been crash tested and meet government standards are available. The remainder of this brochure describes the kinds of restraints that are available and how they should be used.

Some Rules To Remember

1. Children under 5, or weighing less than 40 pounds, should ride in a child restraint.
2. The safest place in the car for a child is in the back seat.
3. If no child restraint is available, children should use the car safety belt. This is much safer than riding unrestrained.
4. Adults should not hold children on their lap while riding in either the front or back seat. They may cause more injuries by crushing their children against the dash with their own body, or the child may be torn from their arms and thrown against the hard interior of the car. If in the back seat, the child may be torn from their arms and thrown into the front area of the car, possibly against the hard interior or into another passenger.
5. Children should not ride in the luggage compartment of a station wagon or hatchback.
6. Hatchbacks should always be kept closed when children are riding in the back seat. If they are left open, the children could be ejected from the car in an accident. Open hatchbacks or tail gate windows also increase the levels of carbon monoxide inside the car from exhaust fumes.

Fringe Benefits

Some days, it seems like there's nothing harder than driving with small kids in the car. Between trying to keep them contented and trying to keep them still, it's almost impossible to keep your mind on the road. That's where child restraints are really helpful. They act just like a good babysitter, keeping your children entertained and under control.

Child restraints can make the ride more fun for children. They're comfortable to ride in, and many of them are designed so they give kids the extra boost they need to see out the windows and feel more a part of what's going on. They are also a very nice place to sleep.

All in all, child restraints are a pretty good deal for everyone. They let you concentrate on driving, while keeping the kids happy and protected.

For a list of approved safety seats or additional information, please contact:

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Types of Restraints Available And How To Use Them

FOR THE INFANT . . . FROM BIRTH TO ABOUT 9-12 MONTHS OF AGE

Infant Carrier



Infant carriers or convertible child safety seats are the only types of child restraints recommended for use by babies. In these restraint systems, the baby faces backwards, in a semi-reclining position. In an accident, the baby's sturdy back absorbs the crash forces rather than its delicate chest and abdomen. The carrier is lined with soft padding, has an internal safety harness to keep the baby in the restraint, and is anchored to the car by the vehicle's safety belt.

The time to start using the infant carrier is on the baby's very first ride home from the hospital. Parents should anticipate the need for an infant carrier before the baby is born, and buy one early as an essential part of the layette. For newborn babies, a rolled-up receiving blanket placed around the head and shoulders will give their head additional support.

Babies should ride in the infant carrier until they can sit up by themselves without support. This usually occurs between 9 and 12 months, or when they weigh about 20 pounds.

There are basically two kinds of infant carriers. The first is designed for infants only. Babies outgrow this kind of seat and must move up to a child safety seat. The second is a convertible carrier. When babies get too big for the infant position, the convertible carriers can be changed into child safety seats which toddlers can continue to use until they're old enough to wear regular safety belts. More about convertible carriers later.

WARNING: Do not use flimsy, light weight, plastic feeder seats and car beds that are designed only for household use, and not for transporting an infant in an automobile.

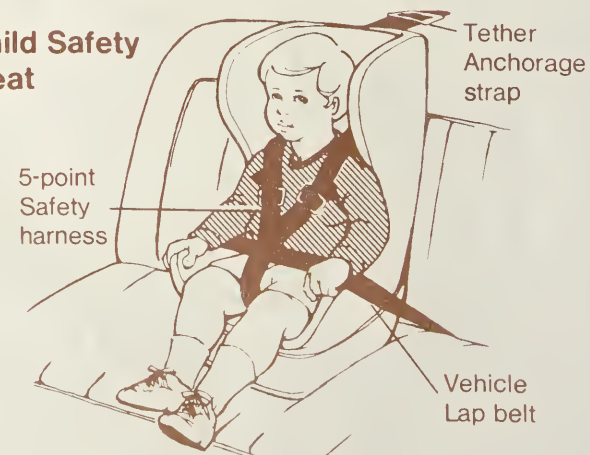
FOR THE TODDLER . . . 1-4 YEARS OLD

Three types of restraint systems are recommended. They include the child safety seat, the protective shield, and the safety harness.

Child Safety Seat

This restraint system is designed for children who can sit up without support. It faces forward and is anchored by the vehicle's lap belt, which is either fastened around the front of the seat, or threaded through the back of the frame.

Child Safety Seat



It has a safety harness with two shoulder straps, a lap belt, and a crotch strap. This five-point harness spreads the crash forces over the child's shoulders and hips. The crotch strap keeps the hip straps from riding up into the child's delicate abdomen.



Some child safety seats also have a "top tether strap" that ties the top of the restraint to the structure of the car. A top tether strap is usually required on child safety seats which have been raised several inches so that the children riding in them can see out the win-

dows. When included, the top tether provides additional crash protection, particularly in side collisions. (See the section on anchoring the top tether strap for detailed instructions on fastening the tether strap.)

Protective Shield

This type of child restraint fits over the front of the child's lap and chest, and is designed to catch and cushion the child in a crash.

It is a C-shaped shell with energy-absorbing padding on the upper part of the shield. The shield is anchored to the car by the lap belt which fastens around the front of the shield. In an accident, the shield spreads the crash forces evenly over the child's head and upper body.

Protective Shield



Lap belt secures the shield

The shield restraint has several advantages over other types of child restraints. It doesn't use a harness, and it doesn't use a top tether strap.

However, the shield generally doesn't provide as much protection in side collisions, and, therefore, should be used in the center seating positions. The shield is also easier to get into and out of, so it may require greater attention to make sure your child stays in the restraint when you're driving.

Child Harness System

This restraint consists of a 5-point safety harness with a top tether anchorage strap. It is designed for children who can sit up without support. It faces forward, and is anchored to the car by the vehicle's lap belt and a top tether strap. The vehicle lap belt threads through a loop of the harness behind the child. The safety harness does not provide side impact protection, and should, whenever possible, be used in the center of the rear seat.

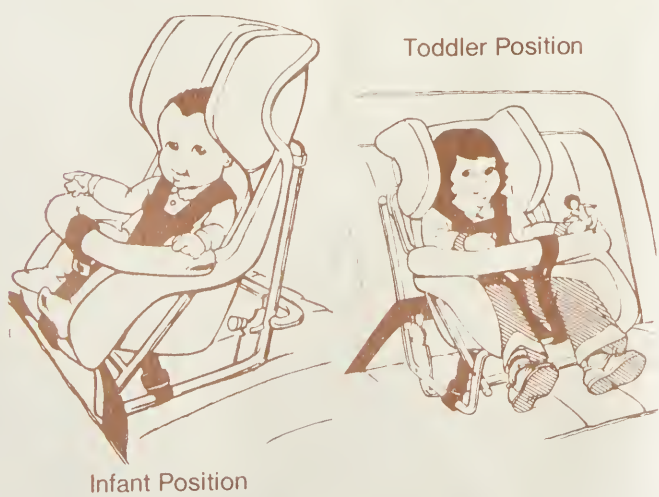
Child Harness



The Convertible Seats

Some infant carriers are simply converted safety seats. Changing them from infant carrier to child seat is a fairly simple operation. You move the safety harness from the lower shoulder strap slots to the upper slots; you adjust the tubular frame from the reclining position to the upright position; you turn the seat around so that the child is facing front, and you re-buckle the car safety belt through the seat frame according to the manufacturer's instructions.

Convertible Models



Some Reminders

- Be sure to read, follow, and keep the manufacturer's instructions.
- Be sure to attach the child restraint properly to the car with the vehicle's lap belt. On some child safety seats, the lap belt goes through the metal frame of the seat; while in others, it goes around the top of the seat and over the child's lap.

- Be sure to attach the top tether strap, if one is included, for full protection. In order to be effective, the tether strap must be attached securely to either the rear seat belt, the rear shelf, or some other metal anchor point. (See the section on anchoring the tether strap).
- Be sure to properly secure your child in the restraint. Buckle all five parts of the harness together and be sure the harness is not too loose.

Restraint Systems For The Older Child

Regular Vehicle Lap Belts

Children over the age of 4 or 5 and weighing about 40 pounds can be restrained by use of the vehicle lap belt, with the child sitting up-right against the back of the seat. The lap belt should be adjusted snugly so that it will not ride up across the child's abdomen. Again, the safest position is in the rear seat, with the center seating position being safer than the side positions.

Three-Point Restraint System

Depending on the weight and height of the child, the three-point adult belt system may be used. Such use, however, requires a proper fit of the shoulder portion of the belt. That is, it must be positioned firmly across the chest and shoulder and not cutting across the neck, face, or head.

If the three-point belt system must be used and a proper fit of the shoulder belt is not possible, the shoulder belt should be tucked in behind the child, never under the arm or across the chest.

How To Select The Best Restraint For Your Child

All types of child restraints including those for infants, manufactured for use in motor vehicles on or after January 1, 1981, are required to meet stringent specifications for crashworthiness and labelling as stated in the **Federal Motor Vehicle Safety Standard 213**. Not included under the standard are those flimsy, light weight plastic child feeder seats used in the home which are not intended for car use.

Choose a seat that you will install according to the manufacturers instructions and one that you will use on every trip.

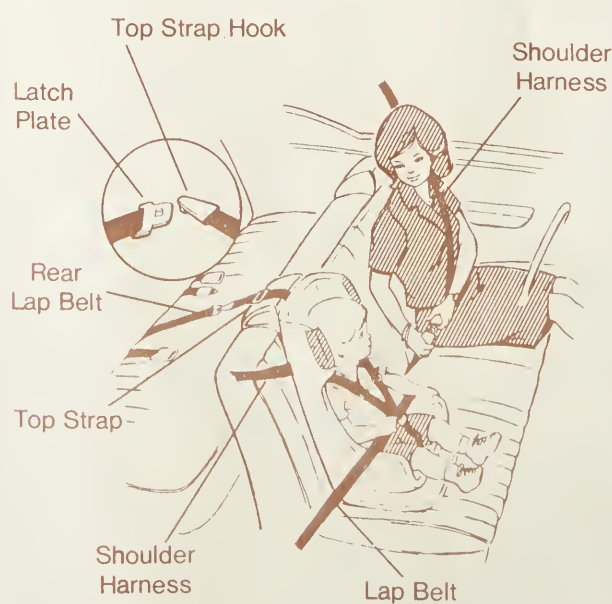
There are many different places where you can buy child restraints. They include:

- Retail outlets, including department stores
- Discount centers
- Juvenile furniture and baby needs stores
- Some car dealers
- Some hospital gift shops
- Catalog sales available from large retailers
- Automotive retail and supply dealers

Before you buy a new restraint, try it out in your car. Some restraints don't fit into some cars. There are enough restraints on the market, though, that you should be able to find one that's just right for your car, your child, and your budget.

Anchoring The Top Tether Strap

While the following instructions may be appropriate for many cars, the automobile manufacturer should be able to tell you the best place to anchor a tether strap in your car. We recommend that you contact the manufacturer for this information. You can get the address from your local automobile dealer.



USAGE INSTRUCTIONS FOR FRONT SEAT INSTALLATIONS

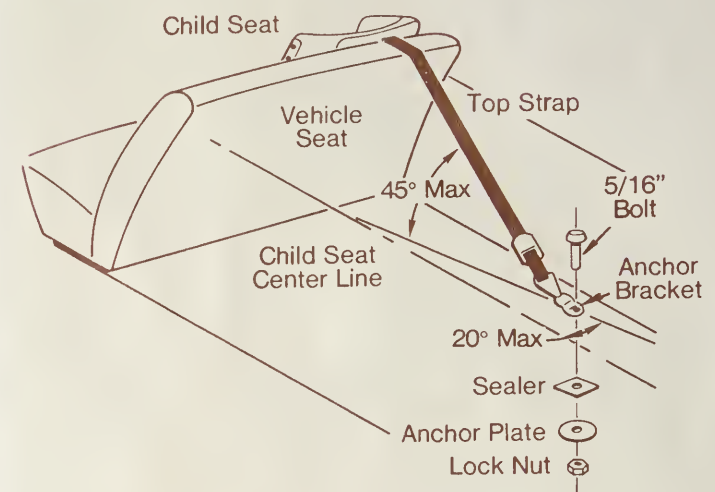
Latch the top strap hook onto the rear seat lap belt latch plate located most directly behind the child seat and **SECURELY TIGHTEN THE TOP STRAP**. If there is no lap belt latch plate within 10" of being directly behind the child seat, do not use the child seat in that position.

FOR VANS, HATCHBACKS, STATION WAGONS AND UTILITY TRUCKS

Select a suitable anchor bracket mounting location on the floor of the vehicle. The location must be:

- On a flat metal surface which is a welded-in integral part of the vehicle body. **DO NOT** attach anchor bracket assembly to folding seat back panels or movable load floors, filler panels, spare tire covers, or any screw-on panels.
- In a position clear of fuel tank, fuel lines, brake lines, exhaust systems, etc.
- In a position where the angle between the Child Seat top strap and the load floor does not exceed 45° (horizontal angle).
- As close to the centerline of the Child Seat as possible, but in no case must the angle between the Child Seat centerline and top strap exceed 20° (side to side angle).

NOTE: If conditions A, B, C, or D cannot be met, do not use the Child Seat in that seating position. Move the Child Seat to another seating position which satisfies conditions A, B, C, or D.



Drill a 5/16" diameter hole through the floor at the selected location.

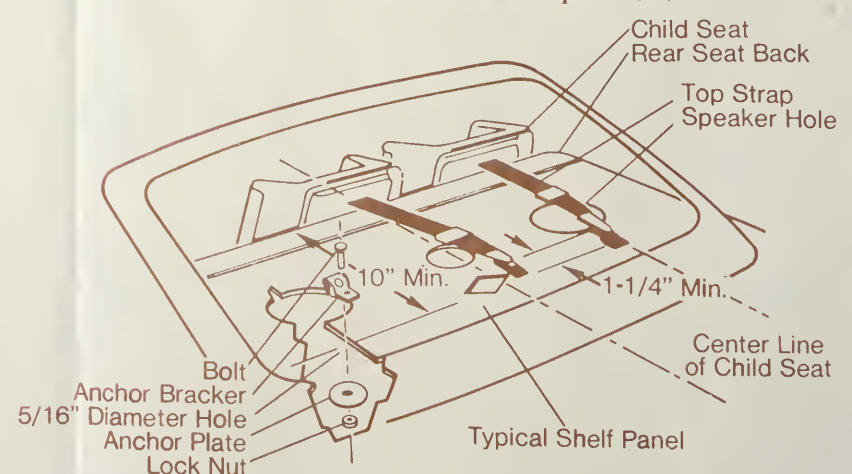
Assemble and securely tighten the bolt, anchor bracket, anchor plate, (2-1/2" O.D. washer) and the lock nut to the floor using a suitable sealer around the hole. If the hole has been drilled through the floor to the outside of the vehicle, make certain that the hole is properly sealed to prevent exhaust fumes from entering the vehicle.

Some communities have rental or recycling programs where you can rent an infant or child safety seat for a short period of time, instead of buying one. In other programs, your outgrown child restraint can be recycled and rented for another young child to use. Contact your local highway safety or health department to determine if such a program exists in your area.

USAGE INSTRUCTIONS FOR REAR SEAT INSTALLATIONS

Select a suitable anchor bracket mounting location on the filler panel. The location must be:

- In solid metal at least 1-1/4" away from any large holes in the metal portion of the filler panel. (speaker holes, defogger holes, etc.)
- Far enough behind the child seat to allow the top strap to be securely tightened. (Approximately ten (10) inches or more behind the child seat back.)
- As close to the centerline of the Child Seat as possible, but in no case more than two inches to the outside or six inches to the inside of the Child Seat centerline. If this condition can not be met, then do not use the Child Seat in that position.



From inside your car's trunk, drill a 5/16" diameter hole up through the metal filler and trim panel at the selected mounting location. Care must be taken not to hit the rear window with the tip of the drill as this could cause the rear window to shatter.

Assemble and securely tighten the bolt, anchor bracket, anchor plate (2-1/2" O.D. washer) and the lock nut to the metal filler panel and trim as shown.

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